U.S. Serial No. 10/588,410

## AMENDMENTS TO THE CLAIMS

Please replace the claims with the following amendments:

1-54. (Cancelled).

55. (Currently Amended) A <u>cultivated robust</u> watermelon variety producing fruit with <u>an average fructose content of at least 60% or an average sucrose content of at least 65% of total soluble sugar; and/or an average combined fructose and sucrose content of at least 90% of the total soluble sugar altered sugar ratios selected from at least one of elevated fructose and elevated sucrose content, having equal or reduced total sugar content, being devoid of bitterness and having superior sweet taste characteristics compared to currently available varieties, suitable for commercial scale cultivation.</u>

(Cancelled).

- (Currently Amended) The watermelon variety of claim 55, wherein the average fructose content is at least 60% or at least 65% of the total soluble sugar.
- 58. (Currently Amended) The watermelon variety of claim 55, wherein the average sucrose content is at least 70% or at least 75% of the total soluble sugar.
- (Currently Amended) The watermelon variety of claim 55, wherein the average combined content of fructose and sucrose is at least 90% or at least 95% of the total soluble sugar.
- (Previously Presented) The variety of claim 55, wherein the variety is an inbred parent line.
- 61. (Currently Amended) The variety of claim 55, wherein the variety is a hybrid and the average fructose content of at least 65% or an average sucrose content of at least 70% of total soluble sugar; and/or an average combined fructose and sucrose content of at least 95% of the total soluble sugar.
- (Previously Presented) A watermelon fruit produced from the watermelon variety of claim 55.

Docket No. 15872.017 Amendment and Response

Title: "Watermelon Varieties Having altered Sugar Ratios" U.S. Serial No. 10/588,410

63. (Currently Amended) A seed of a cultivated robust watermelon variety, wherein a plant grown from the seed is [[a]] the watermelon variety of claim 55.

64. (Previously Presented) A watermelon plant, or part thereof, produced by growing

the seed of claim 63.

65. (Currently Amended) The watermelon plant[[,]] or part thereof of claim 64,

wherein the part thereof is a pollen grain, an ovule, or tissue culture of regenerable cells of the

plant.

(Currently Amended) The plant or part thereof of claim 64, further comprising at

wherein the plant is least one additional trait selected from the group consisting of herbicide

resistant-resistance, insect resistant-resistance, bacterial resistant resistance to bacterial, fungal or

viral disease resistant, and/or male sterile sterility and improved nutritional value.

67. (Cancelled).

68. (Cancelled).

69. (Previously Presented) The plant, or part thereof, of claim 64, wherein the plant

or part thereof is transgenic and contains one or more transgenes operably linked to one or more

regulatory elements.

70. (Previously Presented) The tissue culture according to claim 65, comprising cells

or protoplasts from a tissue selected from the group consisting of leaves, pollen, ovules embryos,

roots, root tips, anthers, flowers, fruit and seeds.

71. (Currently Amended) The tissue culture of regenerable cells of claim 70, wherein

the tissue regenerates plants producing fruit with an average fructose content of at least 60% or an

average sucrose content of at least 65% of total soluble sugar; and/or an average combined

fructose and sucrose content of at least 90% of the total soluble sugar altered sugar ratios selected

from at least one of elevated fructose and elevated sucrose content, having equal or reduced total

sugar content, being devoid of bitterness and having superior sweet taste characteristics compared

to currently available varieties, suitable for commercial scale cultivation.

Amendment and Response Docket No. 15872.017
Title: "Watermelon Varieties Having altered Sugar Ratios"

U.S. Serial No. 10/588,410

claim 71

72. (Previously Presented) A watermelon plant regenerated from the tissue culture of

73. (Withdrawn) A method for breeding a watermelon plant producing fruit with an

average fructose content of at least 60% or an average sucrose content of at least 65% of total soluble sugar; and/or an average combined fructose and sucrose content of at least 90% of the

soluble sugar; and/or an average combined fructose and sucrose content of at least 90% of the total soluble sugar-altered sugar ratios selected from at least one of elevated fructose and elevated

sucrose content, having equal or reduced total sugar content, being devoid of bitterness and

having superior sweet taste characteristics compared to currently available varieties and suitable

for commercial scale cultivation, comprising the steps of:

 a. crossing at least one wild type Citrulus species with a Citrulus lanatus to produce F<sub>1</sub> hybrid seeds:

collecting the hybrid F<sub>1</sub> seeds;

growing plants from the F<sub>1</sub> seeds;

d. pollinating the F<sub>1</sub> plants;

collecting the hybrid seeds produced by the F<sub>1</sub> plants;

f. growing plants from the seeds produced by the F1 plants;

g. measuring the total soluble sugar content of ripe fruit produced from the

plants grown from the seeds of the F1 plants; and

 selecting plants with watermelon fruit comprising an average fructose content of at least 60% or 50%; sucrose content of at least 65%; and/or

fructose and sucrose content of least 90% of the total soluble sugar being

devoid of the bitterness of the wild type Citrulus species.

74. (Withdrawn) The method of claim 73, wherein the pollination in step (d) includes self pollination or back crossing with a *C. lanatus* plant.

75. (Withdrawn) The method of claim 73, wherein the steps of crossing and selecting

are repeated at least once.

Amendment and Response Docket No. 15872.017
Title: "Watermelon Varieties Having altered Sugar Ratios"

U.S. Serial No. 10/588,410

76. (Withdrawn) The method of claim 73, further comprising the step of selfing, at

least once, the selected plants, and further selecting plants producing fruit comprising an average fructose content of at least 60% 50%; or sucrose content of at least 65%; or fructose and sucrose

content of at least 90% of the total soluble sugar being devoid of the bitterness of the wild type

Citrulus, to obtain super sweet watermelon advanced lines.

77. (Withdrawn) The method of claim 76, further comprising the steps of:

a. crossing a Citrulus advanced line plant with a C. lanatus plant;

b. selecting plants with watermelon fruits comprising an average fructose

content of at least 60% 50%; or sucrose content of at least 65%; or fructose

and sucrose content of at least 90% of the total soluble sugar; and

c. selfing the selected plants at least once to obtain inbred line producing fruit with altered sugar ratios selected from at least one of elevated fructose and

elevated sucrose content, having equal or reduced total sugar content, being

devoid of bitterness-and having superior sweet taste characteristics compared to currently available varieties and suitable for commercial scale cultivation.

78. (Withdrawn) The method of claim 77, wherein selfing is repeated 1 to 12 times.

79. (Withdrawn) A method of producing first generation hybrid seeds comprising

crossing a first parent watermelon plant with a second parent watermelon plant and harvesting the resultant hybrid  $F_1$  seeds, wherein the first and the second parent plants are inbred lines producing

fruits having an average fructose content of at least 60% of total soluble sugar or an average

sucrose content of at least 65% of total soluble sugar, and/or an average combined fructose and

sucrose content of at least 90% of the total soluble sugar with altered sugar ratios selected from at

least one of elevated fructose and elevated sucrose content, having equal or reduced total sugar

content, being devoid of bitterness and having superior sweet taste characteristics compared to

currently available varieties, suitable for commercial scale cultivation.

80. (Withdrawn) A hybrid watermelon seed produced by the method of claim 79.

Title: "Watermelon Varieties Having altered Sugar Ratios"

U.S. Serial No. 10/588,410

 (Withdrawn) A hybrid watermelon plant, or parts thereof, produced by growing the seed of claim 80.

 (Currently Amended) A method for producing a watermelon plant derived from the watermelon plant of claim-64, comprising;

a. crossing a first watermelon plant line with a second watermelon plant to
obtain F<sub>1</sub> progeny seed, wherein the first watermelon plant is [[a]] the
plant according to claim 64:

 growing the F<sub>1</sub> progeny seed under suitable plant growth conditions to yield an F<sub>1</sub> watermelon plant of the first hybrid plant; optionally;

- c. crossing the plant obtained in step (b) with itself or with a third watermelon plant to yield second progeny seeds derived from said first hybrid plant; and
- growing the second progeny seed under suitable plant growth conditions to yield additional watermelon plant derived of said first hybrid plant.
- 83. (Previously Presented) The method of claim 82, further comprising the step of repeating the steps of crossing the plant obtained in step (b) and growing the progeny seed at least 1 to 7 times to generate further watermelon plants.
  - 84. (New) A watermelon plant produced by the method of claim 82.
- 85. (New) The watermelon plant of claim 84, wherein the average fructose content is at least 60% of the total soluble sugar.
- 86. (New) A watermelon plant obtainable by crossing a wild type *Citrulus* species with a *Citrulus lanatus* plant, wherein the watermelon plant comprises an average fructose content of at least 60% or an average sucrose content of at least 65% of total soluble sugar, and/or an average combined fructose and sucrose content of at least 90% of the total soluble sugar.